Genitourin Med 1986;62:61-62

An unusual presentation of tuberculous epididymo-orchitis: case report

P A NEELARANJITHARAJAH

From the Department of Genitourinary Medicine, Royal Infirmary, Leicester LE5 6SY.

SUMMARY An Asian man initially presented with a urethral discharge caused by lower urinary tract infection, which was followed by acute epididymo-orchitis. This responded well to antibiotics but was followed by a less acute form of epididymo-orchitis, which did not respond to antibiotics and which tissue biopsy showed to be tuberculous. The inflammatory injury of acute epididymo-orchitis may have activated a silent tuberculous focus in the epididymis, which led to the subsequent subacute tuberculous epididymo-orchitis.

Introduction

Isolated tuberculous epididymo-orchitis is uncommon, and most patients present with a scrotal swelling. Pain is infrequent, and only 7% presented with pain in a series of 170 cases studied by Ross *et al.*[1] The inflammation is usually subacute, though acute tuberculous epididymo-orchitis does occur. Constitutional symptoms, such as fever, weight loss, and night sweats are usually absent. Only 14% of cases of genitourinary tuberculosis studied by Simon *et al* in the general hospital population had such symptoms.[2] Five of 20 cases reported by Ferrie and Rundle had negative urine cultures for *Mycobacterium* spp and negative intravenous urograms, and in 50% the initial diagnosis was made by histological examination.[3]

Case report

A Kenyan Asian man aged 38, who had lived in the United Kingdom for 15 years, presented in March 1984 to this genitourinary clinic with a mucopurulent urethral discharge, frequency of micturition, and dysuria of seven weeks' duration. He had no constitutional symptoms and no history of major illness, including tuberculosis. He had been investigated in 1977 for chest pain in the region of the left eighth and ninth ribs, but no cause was found for this. He had a contact history of tuberculosis – his wife's mother, who lived in the house, had been treated for pulmonary tuberculosis in 1978.

Microscopy of a Gram stained urethral smear showed polymorphonuclear lencocytes but no Gram negative diplocicci. (Culture for *Neisseria gonorrhoeae* was also negative.) There were threads in both glasses in a two glass urine test. *Escherichia coli* was cultured from a mid stream urine (MSU) specimen. He was given trimethoprim for two weeks. When reviewed two weeks later he was almost symptom free, but there were still a few threads in the urine, and an MSU specimen contained $100 \times 10^6/1$ pus cells.

He was seen again after two weeks, by which time he had developed left sided acute epididymo-orchitis. He was treated for two weeks with minocycline and metronidazole to which he responded well. The pain disappeared completely, but there was slight residual non-tender swelling of the epididymis. He was seen again with a recurrence of epididymo-orchitis and was again given minocycline. A full general examination showed no abnormality, and rectal examination showed a somewhat firm but benign prostate. The erythrocytes showed microcytosis and hypochromia, which proved to be due to β thallassaemia trait that was confirmed by haemoglobin electrophoresis. His plasma viscosity was normal. *Chlamydia* spp were not cultured from the urethra. Pooled samples of early morning urine taken for three days failed to yield *Mycobacterium* spp on each of three separate occasions. A chest *x* ray, two intravenous urograms (at an interval of three months), and a bone scan of the pelvis and vertebral column were all normal.

He was referred to a urological surgeon, but cystoscopy showed no abnormality. Though there had been some initial response to the minocycline, which was continued for six weeks, there was a residual hard craggy swelling of the left epididymis and lower part of the testis, with a dull dragging pain in the inguinal region. The vas deferens was not thickened or nodular. The left scrotal contents were explored at this stage.

Address for reprints: Dr P A Neelaranjitharajah, Department of Genitourinary Medicine, Leicester Royal Infirmary, Leicester LE5 6SY

Accepted for publication 21 July 1985

An inflammatory mass was found, which affected the lower pole of the epididymis and the testis, and some oedema of the tissues and some pus. Coliforms were cultured from the pus and *M tuberculosis* cultured from a tissue biopsy specimen, which showed histological evidence of tuberculosis. Antituberculous treatment was started, and when he was reviewed three months later the swelling had almost completely resolved.

Discussion

Though isolated tuberculous epididymo-orchitis is rare, it may be the first indication of genitourinary tuberculosis.[3] Tuberculous epididymo-orchitis was the presenting symptom in 36% of 127 cases of genitourinary tuberculosis studied by Wechesler *et al.*[4] The other common reasons for presentation in their study were frequency of micturition and dysuria (20%) and haematuria (20%). Urethritis and urethral discharge are rare, and Symes and Blandy reported five cases of tuberculosis of the male urethra, with one patient presenting with pronounced urethral discharge.[5] Scrotal swelling was the most common presenting symptom in tuberculous epididymo-orchitis.

The mode of infection of the epididymis is still not agreed. Veenema and Lattimer found that 85% of genital cases appeared to have been infected by urine from a tuberculous kidney,[6] and they argue that most epididymal lesions are secondary to prostatic infection, which is secondary to renal infection. Though retrovasal spread from the prostate is likely, lymphatic spread probably also plays an important part in other cases, as shown by an experimental study of guinea pigs.[7] Gow, on the other hand, thought that in most cases the tubercle bacilli settle on the epididymis during a blood borne dissemination from a primary focus in common with various other tissues.[8 9] The result of the arrival of the bacilli in any tissue would depend on the dose of the organism, its capacity to multiply, its virulence, and the resistance of the tissue.

Kretschner suggested that trauma to the epididymis may activate a silent focus.[10] Of the 94 patients studied by him, 24 had experienced various types of trauma, all mechanical. I postulate that, in the case reported here, the trauma was the inflammatory insult suffered as a result of the acute (coliform) epididymo-orchitis. This is probably the first such case to be reported. All the routine tests for genitourinary tuberculosis gave negative results, and the final diagnosis was based on tissue biopsy. A high degree of suspicion in susceptible subjects and early exploration of patients who respond poorly to antibiotics may help in the early diagnosis of tuberculous epididymo-orchitis and prevent the development of late sequelae.

I thank Dr P G Fisk, consultant in genitourinary medicine, for his kind permission to report the case, Mr D E Osborn, consultant genitourinary surgeon, for his surgical help, and Mrs J Bentley for typing the manuscript.

References

1. Ross JC, Gow JG, Hill CA. Tuberculous epididymitis. *Br J Surg* 1961;**48**:663-6.
2. Simon HB, Winstein AJ, Pasternak N, Swarz M, Kunz L. Genitourinary tuberculosis: clinical features in a general hospital population. *Am J Med* 1977;**63**:410-20.
3. Ferrie BG, Rundle JSH. Tuberculous epididymo-orchitis: a review of 20 cases. *Br J Urol* 1983;**55**:431-9.
4. Wechesler H, Westfall M, Lattimer JK. The earliest signs and symptoms in 127 male patients with genitourinary tuberculosis. *J Urol* 1960;**83**:801-3.
5. Symes JM, Blandy JP. Tuberculosis of the male urethra. *Br J Urol* 1973;**45**:432-6.
6. Veenema RJ, Lattimer JK. Genital tuberculosis in the male: clinical pathology and effect of fertility. *J Urol* 1957;**78**:65-7.
7. Duchek N, Winblad B. The spread of tuberculosis in the male genital tract: an experimental study in guinea pigs. *Br J Urol* 1973;**45**:693-5.
8. Gow JG. Genitourinary tuberculosis. In: Blandy J, ed. *Urology*. Oxford: Blackwell Scientific Publications, 1976. Vol 1:226-60.
9. Gow JG. Genitourinary tuberculosis: a study of the disease in one unit over a period of 24 years. *Ann R Coll Surg Engl* 1971;**49**:50-70.
10. Kretschner HL. Tuberculosis of the epididymis. *Surg Gynecol Obstet* 1928;**47**:652-9.